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ABSTRACT

University climate differences were examined across paired samples of 32 male self-identified heterosexual and 32 male self-identified homosexual college students attending the University of Virginia. Data were collected during the winter and spring of the 1983-84 school year. Selected students completed a questionnaire packet addressing several areas of student life, such as university climate, self-esteem, alienation, and homophobia. The University Climate Scale, Alienation Scale, Bem Sex-Role Inventory, Rosenberg Self-Esteem Scale, and University Homophobia Scale were administered. It was hypothesized that: homosexual students would perceive measures of university climate more negatively than would heterosexual students, and sexual orientation would be the best predictor of university climate. Results indicate that homosexual students perceived measures of emotional support, intellectuality, change, and innovation significantly more negatively than did the heterosexual group. Sexual identity and isolation/estrangement were significant predictors of the composite climate measures, adaptability/nurturance, and social tradition. Results also indicate that the person-environment fit of homosexual students was dissonant. This lack of congruence is traced to social environmental dimensions of university life. In view of the increased hostility toward homosexuals since the onset of the acquired immune deficiency syndrome crisis, social climate feedback may be an effective means of monitoring homosexual reactions. Further development of social/interactive models of behavior is also recommended. A 36-item list of references and two data tables are provided. (Author/TJH)

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Social Environmental Conceptions of Male Homosexuality: A University Climate Analysis

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Running head: UNIVERSITY CLIMATE DIFFERENCES BETWEEN MALE HOMOSEXUAL AND HETEROSEXUAL STUDENTS

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Abstract

The purpose of this study was to examine university climate differences between matched groups of 32 self-identified male heterosexual and homosexual college students. Past studies have not directly defined or measured the social environment of homosexuals. Selected students completed a questionnaire packet addressing a variety of areas of student life such as university climate, self-esteem, alienation, and homophobia. It was hypothesized that (a) homosexual students would perceive measures of university climate more negatively than heterosexual students and (b) sexual orientation would be the best predictor of university climate. Results indicated that homosexual students perceived measures of emotional support, intellectuality, change, and innovation significantly more negative than the heterosexual group. Sexual identity and isolation/estrangement were significant predictors of the composite climate measures, adaptability/nurturance, and social tradition. The results indicate that the person-environment fit of homosexual students was dissonant. This lack of congruence is traced to social environmental dimensions of university life. In view of the increased hostility towards homosexuals since the onset of the AIDS crisis, social climate feedback may be an effective means of monitoring homosexual reactions. Further development of social/interactive models of behavior is also recommended.

The purpose of this investigation was to examine differences in university climate between male homosexual and heterosexual students and to determine the most effective predictors of university climate. The study is also intended to help identify some influences on homosexual behavior. It was expected that homosexual students would perceive the university environment more negatively than comparable heterosexual students, especially along involvement, emotional support, and change dimensions. It was further anticipated that sexual orientation would be the most important predictor of identified university climate measures.

Perspectives of Social Research

Many techniques have been used to measure the influence of social environmental factors on homosexual behavior. The developing literature on attitudes toward homosexuality (Larsen, Reed, & Hoffman, 1980; Levitt & Klassen, 1974; Nyberg & Alston, 1976), homophobia (Morin & Garfinkle, 1978), and social reaction theory, as related to homosexuality (Ross, 1978; Weinberg & Williams, 1974) suggest that homosexual behavior and/or difficulties are at least partially influenced by the social environment. However, the degree to which these indicators actually measure the social environment of homosexuals is unclear.

Although these strands of research produce partial information about the social environment, they do not measure the social context in which personal experiences are derived. For

example, it has been shown that environmental perceptions (e.g., support, involvement) are associated with happiness and resulting behavior (Moos, 1979; Stern, 1970). The closest researchers have come to directly measuring the social environment is through social reaction theory. For example, Ross (1978), in a study of the effects of perceived social reaction on the sex roles of married men, found that homosexual men who perceived negative social reactions toward themselves had greater difficulty with psychological adjustment than other gay men.

Other researchers have also supported the impact of the social environment on homosexual behavior. For example, Weinberg & Williams (1974) found that social involvement was negatively correlated with psychological problems. Mapou, Ayres, & Cole (1982) found social functioning to be related to life-event problem areas of adult homosexual men. Laboratory studies with college students have also supported the negative effects of social stigmatization on this group (Krulewitz & Nash, 1980; Larsen, Cate, & Reed, 1980; Snyder & Uranowitz, 1978). See Reynolds (1985) for a more extensive review of research in this area.

Although the variety of social-oriented research studies have elicited relevant information about the conditions under which homosexuals live (i.e., negative attitudes and social reactions toward them, social difficulties, homophobia, and prejudice), they

do not provide a comprehensive picture of social and psychological adjustment. Social reactions and attitudes toward homosexuals measure only other's perceptions while the personal perceptions of homosexuals themselves and the context in which these perceptions transpire is ignored. For example, to what extent does an unsupportive environment affect homosexuals lifestyles/behavior? The measurement of attitudes or social reactions independent of social climate, that is, without an interactional component ignores the interactional process that would be explicitly considered in quantifying the social environment. In addition, little attention has been devoted to the college experiences of difficulties of homosexual students.

A Social Climate Assessment Technique

One approach to quantifying the social environment has been the environmental press theory of Murray (1938). In this approach, the social environment (climate) or environmental press is defined as the directional qualities of the environment, as perceived by the individual, that influence behavior. For example, an environment perceived to be high in task orientation will usually elicit behavior conforming to this environmental characteristic. This behavior is justified by personal "needs" of the individual to adapt to such a setting. Moos and associates (Insel & Moos, 1974; Moos, 1974) and Stern (1970) have used the need-press theory to define specifically and to quantify various

social environments. Insel and Moos have defined social environments to have three common dimensions: (a) relationships, (b) personal growth and goal orientation, and (c) systems maintenance and change. The defining characteristics are a series of subscales composed of true-false propositions about the social climate measuring these three hypothesized dimensions. For example, involvement and emotional support typically represent the relationship dimension and indicate the degree to which the environment is conducive to involvement and support. The underlying conception is that a consensus among individuals characterizing their environment constitutes a measure of social climate, and this climate exerts a directional influence on behavior (Moos).

Moos and associates' social climate scales have been used to measure a variety of settings such as psychiatric wards, classrooms, and university residence halls whereas Stern's scales have measured broader settings such as the university at large. These and other similar scales have been related to mood, happiness, satisfaction, friendship patterns, learning, and environmental adaption (Moos, 1979). For instance, Gerst & Moos (1972) found that climate perceptions differed between student groups such as freshman and seniors. Pfeifer & Schneider (1974) found that black students perceived the university environment more negatively than whites, and Hedegard and Brown (1969) found

differences between black and white students along measures of academic competition, university participation, and satisfaction with college. However, similar studies have not been conducted with homosexual students. Considering a variety of research studies have noted the social difficulties of homosexual men and their effects on social adjustment, it would be expected that homosexual students would perceive a more negative person-environment fit than heterosexuals. The utility of this approach is three-fold: (a) to accumulate and to monitor social environmental information about particular groups, (b) to maximize person-environment fit by quantifying climates in which particular individuals could prosper, and (c) to provide a means by which environmental change could take place.

Thus, utilizing the above conceptions of social environments, the social climate of male homosexual and heterosexual undergraduate students was assessed. Using a created university climate measure and predictor measures of alienation, self-esteem, university homophobia, and sex roles, the following predictions were made: (a) Perceptions of university climate will differ significantly between homosexual and heterosexual students. Specifically, homosexual students will perceive the environment to be significantly more negative on Involvement, Emotional Support, Independence, Traditional Social Orientation, Change, and Innovation and (b) The most important predictor of university climate subscales will be sexual orientation.

Method

Participants

Thirty-two self-identified male homosexual and 32 self-identified male heterosexual students attending the University of Virginia (Spring 1984) were matched on six background variables: (a) race, (b) length of time in college, (c) length of time in present college, (d) age, (e) involvement in extracurricular activities, and (f) place of residence (on or off campus). These variables were expected to influence perceptions of the university climate and have been considered as relevant in influencing college experience (Tinto, 1975). Participants were obtained from a larger sample of 120 students enrolled in introductory psychology courses and completed the forms in exchange for experimental credit. Questionnaires were collected from 48 male homosexual students through the university gay organization, referral, and newspaper advertisements. All questionnaires were administered by the author in group settings, thus, all survey distributed were returned. Matching was accomplished by separating the total homosexual and heterosexual samples into two groups and individually selecting 32 pairs as similar as possible on the above characteristics. Eight homosexual students were removed from the sample because they were not undergraduate students. Although it was not possible to obtain identical matches for all pairs, the final groups were as similar as

possible. Although matching techniques do not substitute for random sampling, they can elicit comparable groups from which inferences can be drawn (Cook & Campbell, 1979).

The data were collected during the winter and spring of the 1983-84 school year in university classrooms or at organizational meetings of the gay student organization. Both groups completed informed consenst forms as a concition of participation.

A group comparison indicated homosexual and heterosexual students were similar on nearly all variables including age (21.1 to 20.5), length of time in present college (3.0 to 2.8 years), involvement in extracurricular activities, and place of residence, respectively. However, there were significant mean differences in favor of the homosexual group on length of time in college, $t(62) = 2.43$, $p < .02$. Homosexual students spent an average of 3.5 years in college compared to 2.8 years the for heterosexual men.

Background information for the homosexual sample indicated that they represented a fairly diverse group of students. Fifty-three percent of the group identified themselves as openly gay. Sixty-six percent acknowledged they were members of the university gay student union; only 32% reported they were involved in the homosexual community. Although the homosexual sample was a diverse group of students, it cannot be considered a representative sample of male homosexual students. The difficulty of obtaining such a sample has been well documented (Bell & Weinberg, 1978; Gonsiorek, 1982).

Outcome Measures

University Climate Scale (UCS) (adapted from Moos & Gerst, 1974; Stern, 1970). This self-reported social environment scale is composed of 11 independently defined subscales measuring one's perception of the general university climate. Developed for the purposes of this study, the final scale consisted of 99 items rated on a 4-point Likert scale from always true (4) to always false (1). For example, an item on the involvement subscale reads "In the university there is a feeling of cohesion and unity." The number of items per subscale ranged from 7 to 11. These subscales are the defining characteristics of university climate. Derived primarily from the University Residence Environment Scale (Moos & Gerst), the subscales fell under the rubrics of relationship, personal growth and goal orientation, and systems maintenance & change. Psychometric analysis of the UCS indicated that subscale internal consistency alpha coefficients ranged from .47 to .86, and 8 of 11 subscales had coefficients above .70. Because of its low reliability (.47), Order and Organization was dropped from subsequent analysis. In addition, computation of subscale intercorrelations indicated they were moderately correlated, suggesting they tapped separate but related dimensions of the social environment. See Reynolds (1985) for the detailed background and characteristics of the UCS.

Predictor Measures

Four measures were used as hypothesized predictors of university climate subscales. They have been generally used as dependent variables in past research.

Alienation Scale (Dean, 1961). This reliable (alpha=.78) measure defines alienation through the components of powerlessness, normlessness, and social isolation. It is composed of 24 Likert type items and was derived from a diverse sample of 384 people. Subscale intercorrelations range from .41 to .67. Although more extensive valication is needed, its prevalence in homosexual research gave it comparative utility in the present study.

Bem Sex-Role Inventory (Bem, 1981). This 60-item, 7-point personality rating scale is a measure of psychological androgyny that independently defines masculinity and femininity. Composed of 20 stereotypic masculine, 20 stereotypic feminine, and 20 neutral items, this scale is one of the most popular sex-role inventories and has been widely used with homosexual populations. Internal consistency alpha coefficients for the scales range from .75 to .87. Both scales were employed in this study.

Rosenberg Self-Esteem Scale (Rosenberg, 1965). This reliable (alpha=.85), 10-item Guttman or Likert-type scale measures the degree of satisfaction with oneself. It has been used with a variety of populations such as college students, and particularly, homosexual students. As a measure of construct validity, the

scale is moderately correlated with depression-affect (.30) and self-ideal discrepancy (.67).

University Homophobia Scale (adapted from Hudson & Ricketts, 1980). This 25-item social environment scale measures the degree to which people perceive the environment to be homophobic (e.g., "People around here would be upset if their best friend was gay."). Derived from the Index of Homophobia (Hudson & Ricketts) in a similar fashion to the UCS, responses were graded on a scale from 1 to 100 in a Likert-type scoring method. Low scores identified students who perceived the university population to be least disturbed is associating with homosexuals. Although this scale has no prior application, the Index of Homophobia was highly reliable (.90).

Procedure

Upon entering a university classroom setting, heterosexual subjects were given a short description of the study and completed information regarding informed consent. They then completed the questionnaire packet containing the outcome and predictor variables. Four group data collection sessions were completed in this manner over a period of 2 months whereby over 100 subjects were obtained. Similar data collection procedures were employed with the homosexual group with the exception that many subjects completed the questionnaires on a individual basis. Subjects obtained through the university gay organization were administered

the questionnaire in an informal lounge at one of their weekly meetings. Those solicited through personal contact or newspaper advertisements completed the questionnaires on their own and were asked to return them as soon as possible to the author's academic department office. Over 50 homosexual students completed the forms. The resulting 32 matched pairs were obtained by selecting those students who most closely resembled one another on the 6 background variables.

Results

The first objective of this study was to address the question regarding differences in perceptions of university climate between homosexual and heterosexual students. For this purpose, Hotelling's (1931) T^2 statistic was used, which tests overall differences between groups across multiple dependent variables. It is regarded as the most powerful test for a p-variate simultaneous comparison (cf. Marascuilo & Levin, 1983). Results indicated a significant multivariate difference between the university climate perceptions of homosexual and heterosexual (coded 0/1) students, $\underline{T}^2(62) = 2.34$, $\underline{p} < .025$. Homosexual students generally perceived the university climate more negatively than heterosexuals. As shown in Table 1, group t-scores indicate, with the exception of Traditional Social Orientation and Student Influence, homosexual students rated lower on all measures of university climate. Specifically, significant

differences occurred on Emotional Support, $F(1, 62) = 5.42$, $p < .023$, Intellectuality $F(1, 62) = 9.60$, $p < .003$, Change, $F(1, 62) = 17.0$, $p < .0001$, and Innovation, $F(1, 62) = 8.50$, $p < .005$. There were no group differences along Involvement, Independence, and Traditional Social Orientation. Significant differences were not expected on Intellectuality. Thus, homosexual students perceived less emotional support, less intellectuality, and less tolerance of change and innovation than their heterosexual counterparts. Further analysis was completed to clarify whether these differences were primarily the result of sexual orientation or covariation with other variables.

Several analyses of covariance were completed to ascertain the effects of sexual orientation on differences between university climate perceptions while controlling for other background variables. It should be noted that because the groups were significantly different on length of time in college, analyses of covariance including this variable may be biased, thus resulting in an inadequate adjustment to pre-existing differences (Lord, 1967).

Insert Table 1 about here

Using the demographic variables as covariates, significant overall university climate differences between group remained in

all cases, including after controlling for length of time in college and age $F(1, 60) = 2.56$, $p < .019$, and length of time in college, present college, age, and extracurricular activities, $F(1, 58) = 2.12$, $p < .027$. These analyses produced very few changes in the significance of group differences across specific subscales. Differences in Intellectuality, Change, and Innovation remained significant between groups when relevant background variables were partialed out. For example, after controlling for length of time in college, group differences were significant for Intellectuality, $F(1, 61) = 6.96$, $p < .01$, Change, $F(1, 61) = 11.70$, $p < .001$, and Innovation, $F(1, 61) = 5.89$, $p < .018$. Similar results occurred when the effects of other variables were removed.

However, these analyses indicated that group differences on Emotional Support were not significant when Length of time in college and variable combinations included both length of time in college and age.

Canonical Correlation Analysis

To address the second hypothesis, the determination of the most effective predictors of university measures, canonical correlation (Rc) analysis was used. This multivariate statistical technique finds the optimal correspondence between two sets of variables (outcome and predictor) by maximizing the correlation between derived canonical variates or factors in each set (Thorndike, 1978). It has the advantage over multiple regression of considering multiple outcome variables simultaneously in determining the relationship between variable sets. Similar to the structural qualities of factor analysis, the canonical variates are the basis for interpreting the relationship between variable sets. The purpose of canonical analysis in the present study is to explain the multiple variable relationships within and between university climate and predictor variables. Following Thorndike (1977, 1978; Thorndike & Weiss, 1983), a stepwise canonical analysis was used to eliminate useless predictor and nonpredicted outcome variables. In this stepwise procedure, the criteria for selection and elimination of variables was based primarily on the canonical component loadings (correlations) and weights (beta coefficients) rather than the multiple correlations. The major goal of the analysis was to derive canonical variates that were highly correlated and explained a large proportion of variance within their corresponding variable sets.

The Final Prediction Model

Results of the final university climate prediction model were based on a reduced set of six outcome (Involvement, Emotional Support, Independence, Traditional Social Orientation, Change, and Innovation) and four predictor (Sexual Orientation, Alienation, Homophobia, and Masculinity). The four outcome and two predictor variables eliminated had low canonical weights and loadings, thus did not improve the interpretability of the model. As shown in Table 2, results indicated that the first 2 canonical variate pairs significantly contributed to the correlation between variable sets, $Rc_1 = .61$, $X^2(24, N = 64) = 58.57$, $p < .001$, $Rc_2 = .54$, $X^2(15, N = 64) = 31.55$, $p < .010$. The first pair of canonical variates accounted for 37% (Rc_1^2) of the variance between linear composites of the outcome and predictor variables while the second pair accounted for 29% (Rc_2^2) of the variance between its linear composites.

Insert Table 2 about here

The proportion of variance explained by the canonical variates within their respective variable sets was relatively high, 52% for the first 2 outcome variates(29 and 23%) and 49% for the 2 predictor variates(25 and 24%). However, as predictors of their corresponding variable sets rather than their latent

factors, the canonical variates were not as impressive. For example, the canonical variates of the predictor variables explained only 18% of the variance of the entire outcome variable set, not much better than the 16% variance explained in the predictor variable set by the variates of the outcome variables. Thus, the variates of the predictor variables are much better predictors of the outcome variates than of the total outcome variable set.

It was also of interest to identify the derived canonical factors that represent the relationship between variable sets. As shown in Table 2, the primary contributors to the first variate of the university climate outcome variables were Change, Emotional Support, and Involvement. A nurturance/adaptability factor was implied. This characteristic was significantly correlated with the first factor of the predictor variables, which was primarily composed of sexual orientation, masculinity, and University Homophobia. The strong contribution of sexual orientation suggests a sexual identity factor, although these two resulting factors had a reciprocal relationship. Homosexual students identified with less than masculine sex roles relative to heterosexuals.

Thus, the first link between the predictor and outcome variables indicated that characterization of one's sexual identity, helps predict one's level of adaptability/nurturance in

the university. As compared to heterosexual students, male homosexuals perceived the environment to lack nurturance and adaptability.

Examination of the second set of canonical variates indicated that the university climate outcome factor was primarily composed of Traditional Social Orientation and Involvement while the second predictor variate was characterized by University Homophobia and Alienation. Consequently, these correlated factors were identified as social tradition and isolation/estrangement. Feelings of social tradition is partly predicted by perceptions of isolation/estrangement. The greater one's perception of estrangement the greater he perceives the environment to follow social traditions or customs such as heterosexual behavior.

Discussion

There were two major results of this study. First, in support of the hypothesis that homosexual students would perceive the university climate more negatively than heterosexual students, it was found that homosexual students perceived the climate as significantly less emotionally supportive, less intellectual, and less tolerant of change & innovation than the heterosexual comparison group, although diferences on Emotional Support did not hold up after covariance analysis. That no differences were found along Involvement, Independence, and Traditional Social Orientation was unexpected and indicates negative social

environmental perceptions may not be as general as anticipated. It is also possible that since the homosexual sample was primarily composed of third and fourth year students, they may have already learned to adapt to an unsympathetic environment. Future studies should target younger gay students to address this latter explanation.

In regard to the second hypothesis that sexual orientation and to lessor extents, alienation and university homophobia, would be the "best" predictors of university climate measures, results generally supported this contention. The identified factors of sexual orientation (sexual identity) and isolation/estrangement were the primary correlates of derived university climate measures.

Present results suggest that current problems faced by homosexuals (i.e., discrimination, homophobia) may be due, in part, to a dissonant social environment that is perceived as incongruent with more traditional heterosexual orientations. Male homosexuals perceived aspects of the environment more negatively than heterosexuals, thus, their adaption to the environment may be that much more difficult. The link between sexual identity and adaptability supports this conclusion. This finding is consistent with similar studies utilizing different sample populations (Bell & Weinberg, 1978; Mapou et al. (1983).

Whereas knowledge of one's sexual orientation influences interpersonal judgment (Istvan, 1983), a similar prejudicial process has not been extended to the broader social environment. A major implication of this study is that negative attributions of homosexuals also operate at the organizational and structural level of the university. Although this process is parallel to the findings of many social research studies, the present findings link this factor directly to the broader social environmental context. This reinforces an interactional person-environment perspective in examining homosexual social problems.

Limitations of the Present Study

Although the results of this exploratory study are encouraging for the study of the social environments of homosexual students, there are a number of limitations that complicate the generalizability of these findings. First, the small sample of students obtained decreased the power of statistical analyses performed and reduced the representativeness of the sample. A number of subgroups were underrepresented such as "closet" homomsexuals, first & second year students, and women.

Second, the UCS was developed only for the purposes of this study. In depth analyses of the scales were not completed to determine their stability and external validity. Further, because Moos's 3-factor model of social environments has not been confirmed across settings, the validity of the UCS remains uncertain.

Finally, the sample of predictor variables and the canonical analysis employed are limited. The predictor composites explained only a small portion of the variance of the outcome variable set. A larger pool of predictor variables should be tested in selecting the most effective prediction model. This would render canonical correlation results more interpretable. Because canonical results may be due to sample-specific covariation, crossvalidation of the canonical weights is necessary to ensure the stability of the obtained canonical variates (Thorndike, 1978).

Implications for College Environments

With the above limitations in mind, the present university climate analysis indicated that homosexuals, perceiving components of university climate more negatively than heterosexuals, may direct their lives consistent with these perceptions. The dissonant social environment as perceived by male homosexual students suggests the university climate is less than supportive of this group. It is expected that institutional press (university climate) has a clear relationship to the explicit objectives of the university and fosters a system of personal growth and development. As Pace & Stern (1958) explain: "Implicit press and explicit objectives should reinforce one another, for an institution should operate in reality the way it means to operate in theory."

A salient implication is that a social climate assessment technique can be useful in mediating this lack of person-environment fit by providing (a) systematic feedback of the environment and (b) prescriptions for environmental change. Analysis of the social environment can help determine the reactions of homosexuals to their environment. This is especially relevant now because of the hostility directed at gays as a result of Acquired Immune Deficiency Syndrome (AIDS).

Although further empirical support is needed to ascertain the efficacy of social environmental variables in influencing homosexual lifestyles, preliminary results are promising. However, further developments in social climate assessment must be matched with modifications in the measurement of social environments in general. A comprehensive model has not been delineated (Anderson, 1982). In conclusion, the role of the social environment in the causal sequence of behavior must be further explicated. Delineation of these above issues may further reinforce the validity of social climate analyses for homosexual research and, more importantly, continue to guide social/interactive conceptions of behavior.

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Table 1

Group Comparison of Mean T scores Across Subscales

Scale	No. of items	Group		F (df = 1, 62)
		Homosexuals	Heterosexuals	
Involvement	8	48.8	51.2	.97
Emotional Support	8	47.2	52.8	5.42*
Independence	7	49.2	50.8	.39
Traditional Social Orientation	7	50.0	50.0	.00
Competition	7	48.8	51.2	1.00
Academic Achievement	7	48.9	51.1	.80
Intellectuality	8	46.4	55.6	9.03**
Change	8	45.4	54.6	17.00***
Innovation	8	46.5	53.5	8.50**
Student Influence	7	50.0	50.0	.06

*$p < .025$. **$p < .01$. ***$p < .001$.

Table 2

Canonical Weights and Correlations for Reduced Outcome and Predictor Variable Sets

	Variate	
Scale	1	2
Outcome variables		
Involvement	.47	-.69
Emotional Support	-.61	.20
Independence	.26	-.31
Traditional Social Orientation	.25	.69
Change	-.88	.21
Innovation	.02	.07
Predictor Variables		
Sexual Orientation	.87	.24
Alienation	-.18	.52
University Homophobia	.44	.80
Masculinity	-.44	.45
Rc	.61**	.54*

*p < .01. **p < .001.